

Tuvalu

Background

Tuvalu with 10,000 people is one of the smallest Pacific Island states comprising nine low lying atolls with a total land area of only 25.3 km². It lies to the west of the international dateline and 1,000 km north of Fiji in the Central Pacific. Tuvalu is scattered over an ocean area of 754 987 km². With an estimated population of about 10 000 people, Tuvalu has a very high population density (398 persons per km²).

Tuvalu has a tropical climate with an average temperature of 30° C, and a rainfall of 3000 mm annually.

Tuvalu's main resource is considered to be its ocean. With an Exclusive Economic Zone of approximately 754 987 km², Tuvalu will need vast financial resources, technology and manpower to tap this resource. The extremely poor, arid and sandy non-agricultural soil does not allow growing of any vegetable or fruit, and there is no industry, including tourism, thus Tuvalu has been labelled as one of the "least developed countries".

The dispersed population, isolation and limited natural resources severely limit prospects for economic growth and development. Nonetheless, Tuvalu has an excellent record of meeting its people's basic needs since Independence in 1978, with nearly universal access to basic health services and formal education. Life expectancies are on a par with some middle income countries. Despite a high dependence on one sector (government), the economy has performed satisfactorily.

Slow population growth and declining dependency ratios provide opportunities for improvements in quality of services rather than just quantitative expansion. However, the creation of cash income opportunities has been low, the capacity of the public service is extremely limited; health services struggle to meet demands of changing lifestyles, educational services are focused more on knowledge and skills needed for overseas employment than on sustainable livelihoods within Tuvalu, and rapid urbanisation is beginning to stress the physical and social fabric of Funafuti.

There is a high degree of vulnerability to external economic and environmental events and Tuvalu is among those countries expected to suffer the greatest impact of climate change, including disappearance in the worst-case scenario. To some extent offsetting these problems, Tuvalu has the advantages of a strong and resilient culture, a reasonably egalitarian society, strong democratic principles, and a record of prudent fiscal management.

Tuvalu's atolls are among the planet's harshest environments: flat ribbons of sand, with limited fresh water; supporting a very narrow range of vegetation; with geographic fragmentation making transport and communications, both internal and international, costly and difficult.

Water resources and supply

Rainwater is the main source of fresh water in Tuvalu, and any period of drought poses very serious consequences to the health and well being of the people of Tuvalu.

Generally, all Tuvaluans have access to potable water although it often requires boiling. Ground water from wells is very limited and is brackish and there are no rivers or lakes. Water is usually obtained from roofs by catching rainwater (85% of households have private water tanks). Although rainfall is heavy, averaging 3m annually overall and 3.8m in Funafuti, households often run out of water even during normal weather because of poorly maintained systems and



tanks. According to the Tuvalu Trust Fund Advisory Committee (April 2002), “rain is not collected, stored and distributed in accordance with any coherent strategy”

The issue of water supply on Funafuti needs to be given a high profile and dealt with comprehensively if real improvements are to be made. The position appears to be somewhat better on other islands, but there too the situation needs assessment and planning for improvement. A single planning and management structure, accountable to the Government and Parliament, is needed.

The main source of drinking water is rainwater, on the grounds of quality and safety. Ground water from wells is used only in times of drought for washing, bathing and domestic needs. Also used in times of drought is a desalinator, which is also only used during droughts, but is currently out of commission.

Rainwater catchments to harvest rainwater, are common on government buildings and households, and consist of water tank, water cistern, or green plastic tank catchments.

The Public Works Department (PWD) responsible for the distribution of drinking water to households at a cost of \$15.00 per 500 gallons.

The Waste Management Unit deals with pollution and contamination of water sources and their inspectors are responsible for monitoring and advice for problems raised by the public.

In 1998, the South Pacific Regional Environment Programme (SPREP) surveyed Tuvalu for sites containing unwanted Persistent Organic Pollutants (POPs), hazardous organic chemicals which remain in the environment for a long time, accumulate in living tissue, and can cause serious health problems. Polychlorinated biphenyls (PCBs) from old power transformers, for example, can cause cancers. Four POP-contaminated sites were found on Funafuti; the Power Station, PWD depot, Agriculture Department and the Hospital. It is not known how much of this has been removed or treated, or whether additional POPs resulted from recent road upgrading. There is no legislation to ban imports of hazardous wastes or control their disposal. Medical and other hazardous wastes are burned in the open. Household and small business waste production has become a significant problem in Funafuti, with solid waste collected from about half of Funafuti households and much waste simply dumped at various sites with no controlled land filling.

An innovative and comprehensive three-year waste management project at the Government of Tuvalu Environment Unit has educated the public on waste issues, established a dedicated landfill, has begun composting vegetable waste, and plans to control piggery and medical wastes. However, it is approaching completion with no firm agreement on future institutional responsibility for waste management.

Most households in Funafuti, and increasing numbers of households in outer islands employ improved privies rather than the beach as in the past. The impact of these on the water quality of lagoons is unknown, although anecdotal reports describe the waters near the hospital as being unsafe. Many of the improved privies are water-sealed, limiting their effectiveness in times of drought. It is not known what other designs might be appropriate in Tuvalu, such as the dry ventilated improved privy.

Diseases identified as resulting from contaminated drinking water include, typhoid fever, ringworm, scabies, worms, diarrhoea, vomiting, tinea, and cholera.



Water quality surveillance and monitoring

The Public Health Act in Tuvalu is very old and needs to be revised in order to safeguard the work of the Inspector. The Health Inspectors are responsible for vector control, food safety and control, drinking water quality and safety, and quarantine of incoming vessels.

Monitoring of drinking water quality and safety is carried out by the Senior Health Inspector and his assistant, however a lack of water testing equipment has been partially offset by public awareness programs. These programs instruct the public on the prevention of contamination of water supplies by means of community level workshops, and a radio program that explains the importance of keeping water catchments clean, to boil drinking water, and to cook food well. Water used for making ice must also be boiled.

Needs analysis

There is only one laboratory, but it is not involved in drinking water monitoring, except in the case of disease outbreaks.

There is no water-sampling program, and no test kits.

The Public Health Act needs to be reviewed.

Reference

1. Workshop on Drinking Water Quality Surveillance and Safety 29 October - 1 November 2001, Nadi, Fiji, Country Report – Tuvalu by Mrs Falealili Feagai, Senior Health Inspector, Princess Margaret Hospital, Public Health Unit, Funafuti
2. WPRO web site
3. United Nations Common Country Assessment Tuvalu Final Draft: 30 April 2002 Office of the United Nations Resident Coordinator Suva, Fiji April 2002

